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Attorney's Docket No.: 16163-005001 / AM100379

#### TECH CENTER 1600/2900

#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: William Stuart Somers et al

Art Unit: 1711

Serial No.: 09/903,876

Examiner: Unknown

Filed : July 11, 2001

Title

: CRYSTAL STRUCTURE OF ESTROGEN RECEPTOR-BETA COMPLEX AND

**USES THEREOF** 

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

#### REVOCATION AND NEW POWER OF ATTORNEY

Under 37 CFR §3.73(b) GENETICS INSTITUTE, LLC, certifies that it is the assignee of 100% of the right, title and interest in the patent application identified above by virtue of:

- Assignments from the inventors of the patent application identified above, to Genetics Institute. Inc. as shown below. On January 1, 2002, Genetics Institute, Inc. was converted to a limited liability company and changed its name to Genetics Institute, LLC, said change was recorded in the United States Patent and Trademark Office at Reel <u>012772</u>, Frame <u>0631</u> on March 29, 2002. Copies of the assignments are attached.
  - 1. From Chu-Lai Hsiao to Genetics Institute, Inc. recorded in the Patent and Trademark Office at Reel 012448, Frame 0830 on January 10, 2002.
  - 2. From Tatos N. Akopian to Genetics Institute, Inc. recorded in the Patent and Trademark Office at Reel 012450, Frame 0747 on January 10, 2002.
  - 3. From Zhang-Bao Xu to Genetics Institute, Inc. recorded in the Patent and Trademark Office at Reel 012450, Frame 0774 on January 10, 2002.
  - 4. From William S. Somers to Genetics Institute, Inc. recorded in the Patent and Trademark Office at Reel 012448, Frame 0846 on January 10, 2002.
  - 5. From Rayomond Unwalla to Genetics Institute, Inc. recorded in the Patent and Trademark Office at Reel 012797, Frame 0443 on January 10, 2002.

The undersigned has reviewed all the documents in the chain of title of the patent application identified above and, to the best of undersigned's knowledge and belief, title is in the assignee identified above.

Applicant: William Stuart Somers et al Attorney's Docket No.: 16163-005001 / AM100379

Serial No.: 09/903,876 Filed: July 11, 2001

Page : 2 of 3

The undersigned, whose title is supplied below, is empowered to act on behalf of the assignee.

The undersigned, acting on behalf of the assignee, hereby revokes all powers of attorney previously granted in the application and appoints:

Elizabeth M. Barnard, Reg. No. 31,088 Rebecca R. Barrett, Reg. No. 35,152 Christine P. Bellon, Reg. No. 41,611 Gavin T. Bogle\* Diana M. Collazo, Reg. No. 46,635 Sean P. Daley, Reg. No. 40,978 Harold H. Fox, Reg. No. 41,498 John J. Gagel, Reg. No. 33,499 John F. Hayden, Reg. No. 37,640 Elizabeth A. Hurley, Reg. No. 41,859 David A. Manspeizer, Reg. No. 37,540 Gale F. Matthews, Reg. No. 32,269 Arnold S. Milowsky, Reg. No. 35,288 Louis Myers, Reg. No. 35,965 Robert C. Nabinger, Reg. No. 33,431 Michael R. Nagy, Reg. No. 33,432 Tu N. Nguyen, Reg. No. 42,934 M. Andrea Ryan, Reg. No. 28,469 Leda I. Trivinos, Reg. No. 50,635 Albert R. Ubieta, Reg. No. 43,212 Wendy S. Vincente, Reg. No. 45,496 Darryl L. Webster, Reg. No. 34,276 Dorothy P. Whelan, Reg. No. 33,814

with full power of substitution and revocation, to prosecute the application and to transact all business in the United States Patent and Trademark Office connected therewith.

All correspondence regarding the application should be sent to:

#### **PTO Customer Number: 26171**

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

<sup>\*</sup>Limited Recognition Under 37 C.F.R. § 10.9(b)

Applicant: William Stuart Somers et al

Serial No.: 09/903,876 Filed: July 11, 2001

Page

: 3 of 3

Attorney's Docket No.: 16163-005001 / AM100379

Respectfully submitted,

Date: (0/13/07

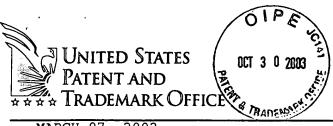
M. ANDREA RYAN

Title: Assistant Sociation
On behalf of Genetics Institute, LLC

Fish & Richardson P.C. 1425 K Street, N.W. 11th Floor

Washington, DC 20005-3500 Telephone: (202) 783-5070 Facsimile: (202) 783-2331

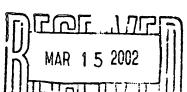
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MARCH 07, 2002

**PTAS** 

AMSTER, ROTHSTEIN & EBENSTEIN CRAIG J. ARNOLD, ESQ. 90 PARK AVENUE NEW YORK, NEW YORK 10016



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Chief Information Officer Washington, DC 20231 www.uspto.gov



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UNITED STATES PATENT AND TRADEMARK OFFICE NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 01/10/2002

REEL/FRAME: 012450/0747

NUMBER OF PAGES: 6

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

AKOPIAN, TATOS N.

DOC DATE: 08/23/2001

ASSIGNEE:

GENETICS INSTITUTE, INC. 87 CAMBRIDGE PARK DRIVE CAMBRIDGE, MASSACHUSETTS 02140

SERIAL NUMBER: 60217834

PATENT NUMBER:

FILING DATE: 07/12/2000

ISSUE DATE:

SERIAL NUMBER: 09903876

PATENT NUMBER:

FILING DATE: 07/11/2001

ISSUE DATE:

ALLYSON PURNELL, EXAMINER ASSIGNMENT DIVISION OFFICE OF PUBLIC RECORDS

AMSTER, ROTHSTEIN & EBENSTEIN
DOCKETED 3/15/21
CLIENT 3719415 25
DUE DATE
ACTION
DKT BY: C REVIEWED BY

#### ARTMENT OF COMMERCE U.S. Patent and Trademark Office 101947248 இல் No. 0651-0027 (exp. 5/31/2002) To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof. 1. Name of conveying party(ies): 2. Name and address of receiving party(ies) Tatos N. Akopian Name: Genetics Institute, Inc. Internal Address: \_\_\_\_\_ Additional name(s) of conveying party(ies) attached? Tyes [A] No 3. Nature of conveyance: 01 - 00 - 02Assignment Street Address: 87 Cambridge Park Drive Security Agreement ☐ Change of Name Other\_\_\_ City: Cambridge State: MA Zip: 02140 Execution Date: August 23, 2001 Additional name(s) & address(es) attached? Yes No 4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is:\_ A. Patent Application No.(s) B. Patent No.(s) 60/217,834 09/903,876 Additional numbers attached? Yes Yes No 5. Name and address of party to whom correspondence 6. Total number of applications and patents involved: 2 concerning document should be mailed: 7. Total fee (37 CFR 3.41).....\$ 80.00 Name: Craig J. Arnold, Esq. ☑: Enclosed Internal Address: Amster, Rothstein & Ebenstein Authorized to be charged to deposit account 8. Deposit account number: Street Address: 90 Park Avenue 01/1\$/2002 AAHMED1 00000059 60217834 01-1785 :581 (Attach duplicate copy of this page if paying by deposit account) City: New York State: NY Zip: 10016

DO NOT USE THIS SPACE

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy

October 31, 2001

Date

9. Statement and signature.

is a true copy of the original document. Craig J. Arnold, Reg. No. 34,287

Name of Person Signing

#### ASSIGNMENT OF INVENTION

In consideration of the payment by ASSIGNEE to ASSIGNORS of good and valuable consideration, the receipt of which is hereby acknowledged,

#### ASSIGNORS:

(1) Full Name of Inventor: William S. Somers

Residence:

20 Mead Street, apt. #2, Cambridge, MA 02140

Citizenship:

U.K.

(2) Full Name of Inventor: Zhang-Bao Xu

Residence:

40 Fieldston Circle, Tewksbury, MA 01876

Citizenship:

U.S.A.

(3) Full Name of Inventor: Tatos N. Akopian

Residence:

58 Johnston Street, West Roxbury, MA 02132

Citizenship:

U.S.A.

(4) Full Name of Inventor: Chu-Lai Hsiao

Residence:

55 Sherbourne Point, Waltham, MA 02451

Citizenship:

U.S.A.

(5) Full Name of Inventor: Rayomond Unwalla

Residence:

4025 Killington Court, Eagleville, PA 19403

Citizenship:

India

hereby sell, assign, and transfer to ASSIGNEE:

Genetics Institute, Inc. 87 Cambridge Park Drive

Cambridge, Massachusetts 02140

and the successors, assigns, and legal representatives of the ASSIGNEE, the entire right, title, and interest for the United States and its territorial possessions, and in all foreign countries, including all rights to claim priority, in and to the invention entitled:

# CRYSTAL STRUCTURE OF ESTROGEN RECEPTOR-β COMPLEX AND USES THEREOF

that was invented by ASSIGNORS, and which is found in U.S. application Serial No. 60/217,834, filed on July 12, 2000, and in U.S. application Serial No. 09/903,876, filed on July 11, 2001, and any legal equivalent thereof in a foreign country, including the right to claim priority, including any and all improvements disclosed therein, and in and to all Letters Patent to be obtained for said invention by the above application, or any continuation, division, renewal, or substitute thereof, and, as to Letters Patent, any reissue or re-examination thereof.

ASSIGNORS hereby covenant that no assignment, sale, agreement, or encumbrance has been, or will be, made or entered into which would conflict with this Assignment.

ASSIGNORS authorize ASSIGNEE to make applications for, and to receive, Letters Patent for said invention in any of said countries, in ASSIGNEE's name, or in ASSIGNORS' names, at ASSIGNEE's election.

ASSIGNORS covenant and agree to execute or procure any further necessary assurance of the title to said invention, and any Letters Patent which may issue therefor, and to, at any time, upon the request and at the expense of ASSIGNEE, deliver any testimony in any interference, litigation, or proceeding related thereto, and to execute all papers that may

172096.1 -2-

be necessary or desirable to perfect the title to said invention, or any Letters Patent which may be granted therefor in ASSIGNEE, its successors, assigns, or other legal representatives, and to, at any time, upon the request and at the expense of ASSIGNEE, execute any continuation, continuation-in-part, divisional, renewal, or substitute thereof, and, as to Letters Patent, and reissue or re-examination thereof, or any other additional applications for Letters Patent for said invention or any part thereof, all of which applications and any Letters Patent issuing thereon are hereby assigned to ASSIGNEE, will make all rightful oaths or declarations, and do all lawful acts requisite for procuring the same therein, without further compensation, but at the expense of ASSIGNEE, its successors, assigns, or other legal representatives.

ASSIGNORS authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States for said invention, resulting from any of the aforesaid applications, to said Genetics Institute, Inc. as their ASSIGNEE.

WITNESS our hands and seals this 23 day of Aug., 2001.

	•
William S. Somers	Zhang-Bao Xu
Tille	· ·
Tatos N. Akopian	Chu-Lai Hsiao

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#### **ACKNOWLEDGMENT**

State of	Massachusetts	} ss:
County of	Middlesex	
me, known	by me to be the same p and acknowledged that	, 2001, William S. Somers personally appeared before erson described in, and who executed, the foregoing the executed the same, of his own free will and for the
		Notary Public
	·	
State of	Massachusetts	} ss:
County of	Middlesex	_}
known by m	e to be the same person and acknowledged that	, 2001, Zhang-Bao Xu personally appeared before me, described in, and who executed, the foregoing he executed the same, of his own free will and for the
		Notary Public

172096.1 -4-

State of	Massachusetts	}	
County of	Middlesex Suffolk	ss: }	
On th known by n instrument, purposes se	and acknowledged that	, 200 n descril he exec	1, Tatos N. Akopian personally appeared before me, bed in, and who executed, the foregoing cuted the same, of his own free will and for the Notary Public
			MARLENE F. AWAD NOTARY PUBLIC
State of	Massachusetts	}	MY COMMESSION EXPIRES JAN. 24, 2008
County of	Middlesex	ss: _}	
known by n	ne to be the same person and acknowledged that	describ	l, Chu-Lai Hsiao personally appeared before me, bed in, and who executed, the foregoing suted the same, of his own free will and for the
			Notary Public
State of	Pennsylvania	} ss:	
County of	Montgomery	_}	
me, known l	by me to be the same pe and acknowledged that	rson de	, Raymond Unwalla personally appeared before scribed in, and who executed, the foregoing uted the same, of his own free will and for the
			Notary Public

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MAR 1 5 2002 <u>5,015,11,15,19</u> AMSTER ROTHSTEIN & EBENSTEIN

MARCH 06, 2002

**PTAS** 

Chief Information Officer Washington, DC 20231 www.uspto.gov

AMSTER, ROTHSTEIN & EBENSTTEIN CRAIG J. ARNOLD 90 PARK AVENUE NEW YORK, NY 10016



\*101946255A\*

UNITED STATES PATENT AND TRADEMARK OFFICE NOTICE OF NON-RECORDATION OF DOCUMENT

OCUMENT ID NO.: 101946255

THE ENCLOSED DOCUMENT HAS BEEN EXAMINED AND FOUND NON-RECORDABLE BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. THE REASON(S) FOR NON-RECORDATION ARE STATED BELOW. DOCUMENTS BEING RESUBMITTED FOR RECORDATION MUST BE ACCOMPANIED BY A NEW COVER SHEET REFLECTING THE CORRECT INFORMATION TO BE RECORDED AND THE DOCUMENT ID NUMBER REFERENCED ABOVE.

THE ORIGINAL DATE OF FILING OF THIS ASSIGNMENT DOCUMENT WILL BE MAINTAINED IF RESUBMITTED WITH THE APPROPRIATE CORRECTION(S) WITHIN 30 DAYS FROM THE DATE OF THIS NOTICE AS OUTLINED UNDER 37 CFR 3.51. THE RESUBMITTED DOCUMENT MUST INCLUDE A STAMP WITH THE OFFICIAL DATE OF RECEIPT UNDER 37 CFR 3. APPLICANTS MAY USE THE CERTIFIED PROCEDURES UNDER 37 CFR 1.8 OR 1.10 FOR RESUBMISSION OF THE RETURNED PAPERS, IF THEY DESIRE TO HAVE THE BENEFIT OF THE DATE OF DEPOSIT IN THE UNITED STATES POSTAL SERVICE.

SEND DOCUMENTS TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231. IF YOU HAVE ANY QUESTIONS REGARDING THIS NOTICE, YOU MAY CONTACT THE INDIVIDUAL WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723.

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SAUNDRA BALLENGER, EXAMINER ASSIGNMENT DIVISION OFFICE OF PUBLIC RECORDS

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DUE DATE		
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# JOAN AMSTER JESSE ROTHSTEIN (RETIRED) DANIEL S. EBENSTEIN PHILIP H. GOTTFRIED MICHAEL J. BERGER NEIL M. ZIPKIN ANTHONY F. LO CICERO KENNETH P. GEORGE ABRAHAM KASDAN, PH.D. IRA E. SILFIN CHESTER ROTHSTEIN CRAIG J. ARNOLD

AMSTER, ROTHSTEIN & EBENSTEIN

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FINANCE SECTION SO PARK AVENUE

NEW YORK, NEW YORK 10016

TELEPHONE: (212) 697-5995 FACSIMILE: (212) 286-0854 NEAL L. ROSENBERG DENISE A. LINDENAUER NANCY M. DODDERIDGE PATRICK BOLAND TREBOR LLOYD JOSEPH M. CASINO JOHN S. ECONOMOU MICHAEL V. SOLOMITA HOLLY PEKOWSKY MICHAEL P. KENNEY MARION P. METELSKI\* MONIQUE L. RIBANDO

SCOTT MCCLAVE LISA MELANSON MAX VERN DANA R. METES KARL J. KOLBINGER BRIAN A. COMACK RICHARD S. MANDARO NATALIE BOGDANOS MARC J. JASON ELIE H. GENDLOFF, PH.D\*

\*NOT ADMITTED IN NEW YORK

CHARLES R. MACEDO MARK J. ROSENBERG KENNETH M. BERNSTEIN

OF COUNSEL JERRY DAINOW

SENIOR COUNSEL

April 4, 2002

#### via Express Mail

Ms. Saundra Ballenger, Examiner U.S. Patent and Trademark Office Assignment Division Box Assignments, CG-4 1213 Jefferson Davis Hwy, Suite 320 Washington, D.C. 20231

"Express Mail" mailing label no. FT332291183US Date of Deposit: April 4, 2002

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressea" service under 37 CFR 1.10 on the date indicated above and is addressed to Ms. Saundra Ballenger, Examiner, U.S. Patent and Trademark Office, Assignment Division, 1213 Jefferson Davis Hwy, Suite 320, Washington, D.C. 20231.

Name: \_Craig 

Signature:

Re:

U.S. Patent Application No. 09/903,826 and U.S. Provisional Application No. 60/217,834

Title: CRYSTAL STRUCTURE OF ESTROGEN RECEPTOR-β

COMPLEX AND USES THEREOF

Inventors: William S. Somers, Zhang-Bao Xu, Tatos N. Akopian,

Chu-Lai Hsiao and Rayomand Unwalla

Our File: 37174/3 and 9

#### Dear Ms. Ballenger:

We received a Notice from the U.S. Patent Office dated March 6, 2002 advising us that an Assignment previously submitted for recordation was found to be non-recordable by the Assignment Division. The original Notice together with the original Assignment submitted for recordation including the Assignment Recordation Cover Sheet is enclosed herewith.

We understand the Assignment was found to be non-recordable because of the incorrect belief that the annotations by Rayomand Unwalla on page 3 of the Assignment reflected his middle name. However, his initials reflect the correction of his first name, and do not correspond to his middle name. The decision that the Assignment was non-recordable was incorrect. For these reasons, applicants respectfully request recordation of the enclosed Assignment.

Since the Assignment is being submitted within thirty (30) days of the March 6, 2002 Notice, this resubmission does not require additional fee. If any additional fee is required, however, authorization is given to charge any such fee to Deposit Account No. 01-1785.

Very truly yours,

AMSTER ROTHSTEIN & EBENSTEIN

Craig J. Arnold

CJA/jgf Encl.



MARCH 07, 2002

PTASIMSTER ROTHSTEIN & EBENSTEIN

Chief Information Officer Washington, DC 20231 www.uspto.gov

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RECORDATION DATE: 01/10/2002

REEL/FRAME: 012450/0774

NUMBER OF PAGES: 6

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

XU, ZHANG-BAO

DOC DATE: 08/27/2001

ASSIGNEE:

GENETICS INSTITUTE, INC. 87 CAMBRIDGE PARK DRIVE CAMBRIDGE, MASSACHUSETTS 02140

SERIAL NUMBER: 60217834

PATENT NUMBER:

PATENT NUMBER:

FILING DATE: 07/12/2000

ISSUE DATE:

SERIAL NUMBER: 09903876

FILING DATE: 07/11/2001

ISSUE DATE:

MARY BENTON, EXAMINER ASSIGNMENT DIVISION OFFICE OF PUBLIC RECORDS

TAMSTER, R	OTHSTEIN &	EBENSTEIN	
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To the Honorable Commissioner of Patents and Trader	marks: Please record the attached original documents or copy thereof.
Name of conveying party(ies):	2. Name and address of receiving party(ies)
Zhang-Bao Xu	Name: Genetics Institute, Inc.
	Internal Address:
Additional name(s) of conveying party(ies) attached? 🖳 Yes 💆	3: No
3. Nature of conveyance:	
Assignment 🖵: Merger	Or A A L. 97 Combuides Bank Britis
Security Agreement	Street Address: 87 Cambridge Park Drive
Other	
	City: Cambridge State: MA Zip: 02140
Execution Date: August 27, 2001	Additional name(s) & address(es) attached? 🛄 Yes 💆 No
4. Application number(s) or patent number(s):	
If this document is being filed together with a new	application, the execution date of the application is:
A. Patent Application No.(s)	B. Patent No.(s)
60/217,834 09/903,876	161 1 0 20
<b>I</b>	bers attached? 🖳 Yes 🖾 No
Name and address of party to whom corresponde concerning document should be mailed:	ence 6. Total number of applications and patents involved: 2
Name:_Craig J. Arnold, Esq.	7. Total fee (37 CFR 3.41)\$80.00
Internal Address: Amster, Rothstein & Ebenstei	in Enclosed
	Authorized to be charged to deposit account
2002 AAHMED1 00000061 60217834	
C 581 80.00 0P	8. Deposit account number:
Street Address: 90 Park Avenue /	
	01-1785
City: New York State: NY Zip: 10016	(Attach duplicate copy of this page if paying by deposit account)
DO NOT	USE THIS SPACE
Statement and signature.	
To the best of my knowledge and belief, the foregois a true copy of the original document.	oing information is true and correct and any attached copy
Craig J. Arnold, Reg. No. 34,287	( wy A and October 31, 2001
Name of Person Signing	Signature Date
Total number of pages includin	or cover sheet, attachments, and documents: 6

#### **ASSIGNMENT OF INVENTION**

In consideration of the payment by ASSIGNEE to ASSIGNORS of good and valuable consideration, the receipt of which is hereby acknowledged,

#### ASSIGNORS:

(1) Full Name of Inventor: William S. Somers

Residence:

20 Mead Street, apt. #2, Cambridge, MA 02140

Citizenship:

U.K.

(2) Full Name of Inventor: Zhang-Bao Xu

Residence:

40 Fieldston Circle, Tewksbury, MA 01876

Citizenship:

U.S.A.

(3) Full Name of Inventor: Tatos N. Akopian

Residence:

58 Johnston Street, West Roxbury, MA 02132

Citizenship:

U.S.A.

(4) Full Name of Inventor: Chu-Lai Hsiao

Residence:

55 Sherbourne Point, Waltham, MA 02451

Citizenship:

U.S.A.

(5) Full Name of Inventor: Rayomond Unwalla

Residence:

4025 Killington Court, Eagleville, PA 19403

Citizenship:

India

hereby sell, assign, and transfer to ASSIGNEE:

Genetics Institute, Inc.
87 Cambridge Park Drive

Cambridge, Massachusetts 02140

and the successors, assigns, and legal representatives of the ASSIGNEE, the entire right, title, and interest for the United States and its territorial possessions, and in all foreign countries, including all rights to claim priority, in and to the invention entitled:

# CRYSTAL STRUCTURE OF ESTROGEN RECEPTOR-β COMPLEX AND USES THEREOF

that was invented by ASSIGNORS, and which is found in U.S. application Serial No. 60/217,834, filed on July 12, 2000, and in U.S. application Serial No. 09/903,876, filed on July 11, 2001, and any legal equivalent thereof in a foreign country, including the right to claim priority, including any and all improvements disclosed therein, and in and to all Letters Patent to be obtained for said invention by the above application, or any continuation, division, renewal, or substitute thereof, and, as to Letters Patent, any reissue or re-examination thereof.

ASSIGNORS hereby covenant that no assignment, sale, agreement, or encumbrance has been, or will be, made or entered into which would conflict with this Assignment.

ASSIGNORS authorize ASSIGNEE to make applications for, and to receive, Letters Patent for said invention in any of said countries, in ASSIGNEE's name, or in ASSIGNORS' names, at ASSIGNEE's election.

ASSIGNORS covenant and agree to execute or procure any further necessary assurance of the title to said invention, and any Letters Patent which may issue therefor, and to, at any time, upon the request and at the expense of ASSIGNEE, deliver any testimony in any interference, litigation, or proceeding related thereto, and to execute all papers that may

172096.1 -2-

be necessary or desirable to perfect the title to said invention, or any Letters Patent which may be granted therefor in ASSIGNEE, its successors, assigns, or other legal representatives, and to, at any time, upon the request and at the expense of ASSIGNEE, execute any continuation, continuation-in-part, divisional, renewal, or substitute thereof, and, as to Letters Patent, and reissue or re-examination thereof, or any other additional applications for Letters Patent for said invention or any part thereof, all of which applications and any Letters Patent issuing thereon are hereby assigned to ASSIGNEE, will make all rightful oaths or declarations, and do all lawful acts requisite for procuring the same therein, without further compensation, but at the expense of ASSIGNEE, its successors, assigns, or other legal representatives.

ASSIGNORS authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States for said invention, resulting from any of the aforesaid applications, to said Genetics Institute, Inc. as their ASSIGNEE.

WITNESS our hands and seals this	27th day of ugust, 2001.
	Ze Bask
William S. Somers	Zhang-Bao Xu
Tatos N. Akopian	Chu-Lai Hsiao
Raymond Unwalla	•

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#### **ACKNOWLEDGMENT**

State of	Massachusetts	}
County of	Middlesex	
me, known	by me to be the same and acknowledged th	, 2001, William S. Somers personally appeared before person described in, and who executed, the foregoing at he executed the same, of his own free will and for the
		Notary Public
State of	Massachusetts	}
County of	Middlesex	ss: }}
KIIOWII DY III	e to be the same perso and acknowledged tha	on described in, and who executed, the foregoing at he executed the same, of his own free will and for the
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State of	Massachusetts	}	
County of	Middlesex	ss: }	
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County of	Middlesex	ss: }}	
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			Notary Public
State of	Pennsylvania	} ss:	
County of	Montgomery	}}	
me, known	by me to be the same and acknowledged th	person descri	aymond Unwalla personally appeared before bed in, and who executed, the foregoing I the same, of his own free will and for the
			Notary Public



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Chief Information Officer

Washington, DC 20231

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MARCH 06, 2002

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AMSTER, ROTHSTEIN & EBENSTEIN CRAIG J. ARNOLD, ESQ.

90 PARK AVENUE NEW YORK, NY 10016

\*101946256A\*

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RECORDATION DATE: 01/10/2002

REEL/FRAME: 012448/0830

NUMBER OF PAGES: 6

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

HSIAO, CHU-LAI

DOC DATE: 08/27/2001

ASSIGNEE:

GENETICS INSTITUTE, INC. 87 CAMBRIDGE PARK DRIVE CAMBRIDGE, MASSACHUSETTS 02140

SERIAL NUMBER: 60217834

PATENT NUMBER:

FILING DATE: 07/12/2000

ISSUE DATE:

SERIAL NUMBER: 09903876

PATENT NUMBER:

FILING DATE: 07/11/2001

ISSUE DATE:

MARCUS KIRK, EXAMINER ASSIGNMENT DIVISION OFFICE OF PUBLIC RECORDS

TOTAL OF TOTAL CONTENTS
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#### RECEIVED 01-15-2002 Form PTO-1593 NOV 0 3 PEPARTMENT OF COMMERCE Patent and Trademark Office (Rev. 03/01) OMB No. 0651-002 ( ( ) 4 15/19 12002) 101946256 TECH CEMTER 1600/2900 Tab settings ⇒ ⇒ ⇒ To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof. 1. Name of conveying party(ies): 2. Name and address of receiving party(ies) 1110102 Chu-Lai Hsiao Name: Genetics Institute, Inc. Internal Address: Additional name(s) of conveying party(ies) attached? ☐ Yes ☑ No 3. Nature of conveyance: ☐ Merger Assignment Street Address: 87 Cambridge Park Drive Security Agreement ☐ Change of Name Other City: Cambridge State: MA Zip: 02140 Execution Date: August 27, 2001 Additional name(s) & address(es) attached? Yes No 4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is:\_\_\_\_ A. Patent Application No.(s) B. Patent No.(s) 60/217,834 09/903,876 Additional numbers attached? | Yes | No 5. Name and address of party to whom correspondence 6. Total number of applications and patents involved: 2 concerning document should be mailed: 7. Total fee (37 CFR 3.41).....\$ 80.00 Name: Craig J. Arnold, Esq. **Enclosed** Internal Address:\_Amster, Rothstein & Ebenstein Authorized to be charged to deposit account 01/15 200<del>2 AAHKED1 - 00000057 60217834 ----</del> 01 FC 581 40.00 DP 8. Deposit account number: Street Address: 90 Park Avenue 01/11/2002 AAHMED1 00000058 60217834 01-1785 40.00 OP 01 FC:581 (Attach duplicate copy of this page if paying by deposit account) City: New York State: NY Zip: 10016

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9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Craig J. Arnold, Reg. No. 34,287

Name of Person Signing

A cum

October 31, 2001

Date

Total number of pages including cover sheet, attachments, and documents:

#### **ASSIGNMENT OF INVENTION**

In consideration of the payment by ASSIGNEE to ASSIGNORS of good and valuable consideration, the receipt of which is hereby acknowledged,

#### **ASSIGNORS:**

(1) Full Name of Inventor: William S. Somers

Residence:

20 Mead Street, apt. #2, Cambridge, MA 02140

Citizenship:

U.K.

(2) Full Name of Inventor: Zhang-Bao Xu

Residence:

40 Fieldston Circle, Tewksbury, MA 01876

Citizenship:

U.S.A.

(3) Full Name of Inventor: Tatos N. Akopian

Residence:

58 Johnston Street, West Roxbury, MA 02132

Citizenship:

U.S.A.

(4) Full Name of Inventor: Chu-Lai Hsiao

Residence:

55 Sherbourne Point, Waltham, MA 02451

Citizenship:

U.S.A.

(5) Full Name of Inventor: Rayomond Unwalla

Residence:

4025 Killington Court, Eagleville, PA 19403

Citizenship:

India

hereby sell, assign, and transfer to ASSIGNEE:

Genetics Institute, Inc. 87 Cambridge Park Drive

Cambridge, Massachusetts 02140

and the successors, assigns, and legal representatives of the ASSIGNEE, the entire right, title, and interest for the United States and its territorial possessions, and in all foreign countries, including all rights to claim priority, in and to the invention entitled:

## CRYSTAL STRUCTURE OF ESTROGEN RECEPTOR-β COMPLEX AND USES THEREOF

that was invented by ASSIGNORS, and which is found in U.S. application Serial No. 60/217,834, filed on July 12, 2000, and in U.S. application Serial No. 09/903,876, filed on July 11, 2001, and any legal equivalent thereof in a foreign country, including the right to claim priority, including any and all improvements disclosed therein, and in and to all Letters Patent to be obtained for said invention by the above application, or any continuation, division, renewal, or substitute thereof, and, as to Letters Patent, any reissue or re-examination thereof.

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be necessary or desirable to perfect the title to said invention, or any Letters Patent which may be granted therefor in ASSIGNEE, its successors, assigns, or other legal representatives, and to, at any time, upon the request and at the expense of ASSIGNEE, execute any continuation, continuation-in-part, divisional, renewal, or substitute thereof, and, as to Letters Patent, and reissue or re-examination thereof, or any other additional applications for Letters Patent for said invention or any part thereof, all of which applications and any Letters Patent issuing thereon are hereby assigned to ASSIGNEE, will make all rightful oaths or declarations, and do all lawful acts requisite for procuring the same therein, without further compensation, but at the expense of ASSIGNEE, its successors, assigns, or other legal representatives.

ASSIGNORS authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States for said invention, resulting from any of the aforesaid applications, to said Genetics Institute, Inc. as their ASSIGNEE.

WITNESS our hands and seals this May of May, 2001.

William S. Somers

Zhang-Bao Xu

Chulac Macac

Tatos N. Akopian

Chu-Lai Hsiao

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#### **ACKNOWLEDGMENT**

State of	Massachusetts	}	
County of	Middlesex	ss: }}	
me, known l	by me to be the same and acknowledged t	e person desc	William S. Somers personally appeared before cribed in, and who executed, the foregoing ted the same, of his own free will and for the
		_	Notary Public
State of	Massachusetts	} ss:	
County of	Middlesex	}}	
known by me	e to be the same pers nd acknowledged th	son described	Zhang-Bao Xu personally appeared before me, I in, and who executed, the foregoing ed the same, of his own free will and for the
		<u></u>	Notary Public

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State of	Massachusetts	}			
County of	Middlesex	}}			
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ALASTER ROTHSTEIN & EBENSTEIN

JUNE 14, 2002

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Chief Information Officer Washington, DC 20231 www.uspto.gov

AMSTER, ROHTSTEIN & EBENSTEIN CRAIG J. ARNOLD, ESO. 90 PARK AVENUE

NEW YORK, NY 10016

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RECORDATION DATE: 01/10/2002

REEL/FRAME: 012797/0443

NUMBER OF PAGES: 6

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

UNWALLA, RAYOMOND

DOC DATE: 08/20/2001

ASSIGNEE:

GENETICS INSTITUTE, INC. 87 CAMBRIDGE PARK DRIVE CAMBRIDGE, MASSACHUSETTS 02140

SERIAL NUMBER: 60217834

PATENT NUMBER:

FILING DATE: 07/12/2000

ISSUE DATE:

SERIAL NUMBER: 09903876

PATENT NUMBER:

FILING DATE: 07/11/2001

ISSUE DATE:

ANTIONE ROYALL, EXAMINER ASSIGNMENT DIVISION OFFICE OF PUBLIC RECORDS

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	To the Honorable Commissioner of Patents and Trademarks	: Please record the attached original documents or copy thereof.
	1. Name of conveying party(ies):  Rayomond Unwalla	Name and address of receiving party(ies)     Name: Genetics Institute, Inc.     Internal Address:
	Additional name(s) of conveying party(ies) attached? 🛄 Yes 🛂 No	
	3. Nature of conveyance:	
	Assignment	Street Address: 87 Cambridge Park Drive
		City: Cambridge State: MA Zip: 02140
	Execution Date: August 20, 2001	Additional name(s) & address(es) attached?   Yes   No
	4. Application number(s) or patent number(s):	
	If this document is being filed together with a new appli	cation, the execution date of the application is:
	A. Patent Application No.(s) 60/217,834 09/903,876	B. Patent No.(s)
		ached? 🖳 Yes 💋 No
	5. Name and address of party to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: 2
	Name: Craig J. Arnold, Esq.	7. Total fee (37 CFR 3.41)\$80.00
	Internal Address: Amster, Rothstein & Ebenstein	🖾 Enclosed
		☐ Authorized to be charged to deposit account
ļ	Street Address: 90 Park Avenue	8. Deposit account number:
01/15	/2002 AAHMED1 00000056 60217834	01-1785
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	9. Statement and signature.  To the best of my knowledge and belief, the foregoing in is a true copy of the original document.  Craig J. Arnold, Reg. No. 34,287  Name of Person Signing	October 31, 2001 Signature  Date
i	Total number of pages including cover	sheet, attachments, and documents: 6

#### **ASSIGNMENT OF INVENTION**

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#### **ASSIGNORS:**

(1) Full Name of Inventor: William S. Somers

Residence:

20 Mead Street, apt. #2, Cambridge, MA 02140

Citizenship: U.

(2) Full Name of Inventor: Zhang-Bao Xu

Residence:

40 Fieldston Circle, Tewksbury, MA 01876

Citizenship:

U.S.A.

(3) Full Name of Inventor: Tatos N. Akopian

Residence:

58 Johnston Street, West Roxbury, MA 02132

Citizenship:

U.S.A.

(4) Full Name of Inventor: Chu-Lai Hsiao

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55 Sherbourne Point, Waltham, MA 02451

Citizenship:

U.S.A.

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Residence:

4025 Killington Court, Eagleville, PA 19403

Citizenship:

India

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Genetics Institute, Inc. 87 Cambridge Park Drive

Cambridge, Massachusetts 02140

Docket No: 37174/3 Patent 60/217,834 Docket No: 37174/9

Patent 09/903,876

and the successors, assigns, and legal representatives of the ASSIGNEE, the entire right, title, and interest for the United States and its territorial possessions, and in all foreign countries, including all rights to claim priority, in and to the invention entitled:

# CRYSTAL STRUCTURE OF ESTROGEN RECEPTOR-β COMPLEX AND USES THEREOF

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ASSIGNORS authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States for said invention, resulting from any of the aforesaid applications, to said Genetics Institute, Inc. as their ASSIGNEE.

WITNESS our hands and seals this 20 day of Aug., 2001.

William S. Somers

Zhang-Bao Xu

Tatos N. Akopian

Chu-Lai Hsiao

Raymond Unwalla

Rayomand Aug.

#### **ACKNOWLEDGMENT**

State of	Massachusetts	} ss:	
County of	Middlesex	}}	
me, known b	by me to be the sam and acknowledged	e person des	, William S. Somers personally appeared before cribed in, and who executed, the foregoing sted the same, of his own free will and for the
		-	Notary Public
State of	Massachusetts	} ss:	
County of	Middlesex	}}	
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State of	Massachusetts	} ss:		
County of	Middlesex	_}		
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State of	Massachusetts	}		
County of	Middlesex	ss: }		
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County of	Montgomery	_}		~
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			Judiela Johnston	
			NOTARIAL SEAL JUDITH A. JOHNSTON, Notary Public Radnor Twp., Delawar County My Commission Expires Sept. 12, 2002	

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MARCH 06, 2002

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NEW YORK, NY 10016

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RECORDATION DATE: 01/10/2002

REEL/FRAME: 012448/0846

NUMBER OF PAGES: 6

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

SOMERS, WILLIAM S.

DOC DATE: 08/24/2001

ASSIGNEE:

GENETICS INSTITUTE, INC. 87 CAMBRIDGE PARK DRIVE

CAMBRIDGE, MASSACHUSETTS 02140

SERIAL NUMBER: 60217834

FILING DATE: 07/12/2000

ISSUE DATE:

SERIAL NUMBER: 09903876

PATENT NUMBER:

PATENT NUMBER:

FILING DATE: 07/11/2001

ISSUE DATE:

PAULA MCCRAY, EXAMINER ASSIGNMENT DIVISION OFFICE OF PUBLIC RECORDS

AMSTER, ROTHSTEIN & EBENSTEIN
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1. Name of conveying party(ies): William S. Somers	Name and address of receiving party(ies)     Name: Genetics Institute, Inc.
	Internal Address:
Additional name(s) of conveying party(ies) attached? :Yes	<u></u>
3. Nature of conveyance:	
☑: Assignment ☐: Merger	97 Combridge Deals Drive
பு Security Agreement 🖳 Change of Na	Street Address: 87 Cambridge Park Drive
☐ Other	
	City: Cambridge State: MA Zip: 02140
Execution Date: August 24, 2001	Additional name(s) & address(es) attached?
4. Application number(s) or patent number(s):	
If this document is being filed together with a new	application, the execution date of the application is:
A. Patent Application No.(s) 60/217,834	B. Patent No.(s)
<b>09/903,876</b> Additional num	l bers attached? ☐ Yes ☑ No
5. Name and address of party to whom corresponde concerning document should be mailed:	
Name: Craig J. Arnold, Esq.	7. Total fee (37 CFR 3.41)\$80.00
Internal Address: Amster, Rothstein & Ebenste	in Enclosed
	Authorized to be charged to deposit account
Street Address: 90 Park Avenue	8. Deposit account number:
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581 80.00 OP	
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To the best of my knowledge and belief, the foreg is a true copy of the original document.	oing information is true and correct and any attached copy
Craig J. Arnold, Reg. No. 34,287	October 31, 2001
Name of Person Signing	Signature Date

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Citizenship:

U.S.A.

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Citizenship:

U.S.A.

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55 Sherbourne Point, Waltham, MA 02451

Citizenship:

U.S.A.

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Citizenship:

India

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Cambridge, Massachusetts 02140

Docket No: 37174/3 Patent 60/217,834 Docket No: 37174/9

Patent 09/903,876

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## CRYSTAL STRUCTURE OF ESTROGEN RECEPTOR-β COMPLEX AND USES THEREOF

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ASSIGNORS authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States for said invention, resulting from any of the aforesaid applications, to said Genetics Institute, Inc. as their ASSIGNEE.

WITNESS our hands and seals this 24 day of -tug, 2001.			
William S. Somers	Zhang-Bao Xu		
Tatos N. Akopian	Chu-Lai Hsiao		
Raymond Unwalla			

#### **ACKNOWLEDGMENT**

State of	Massachusetts	}	
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State of	Massachusetts	Notary Public t xp 4/25/6	?8
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County of	Montgomery	}	
me, known l	by me to be the same and acknowledged th	person de	1, Raymond Unwalla personally appeared before escribed in, and who executed, the foregoing cuted the same, of his own free will and for the
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